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- (71) Applicant (*for all designated States except US*): DSM IP ASSETS B.V. [NL/NL]; Het Overloon 1, NL-6411 TE Heerlen (NL).
- (72) Inventors; and
- (75) Inventors/Applicants (*for US only*): KATAOKA, Michi-hiko [JP/JP]; 24-308 Okazaki-Irie-cho, Sakyo-ku, Kyoto-shi, Kyoto-fu, Kyoto 606-8322 (JP). SHIMIZU, Sakayu [JP/JP]; 6-9 Yamashita-cho, Tokiwa, Ukyo-ku, Kyoto-shi, Kyoto-fu, Kyoto 616-8212 (JP).
- (74) Agents: KELLER, Günter et al.; Lederer & Keller, Prinzregentenstrasse 16, 80538 München (DE).
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(54) Title: ENONE REDUCTASE GENE AND MICROBIAL PRODUCTION OF LEVODIONE

(57) **Abstract:** Disclosed is an isolated DNA comprising a nucleotide sequence coding for an enzyme having enone reductase activity wherein the enzyme is characterized by the following physico-chemical properties: (a) molecular mass: 61,300 ± 5,000 Da (estimated using gel filtration, consisting of one subunit); (b) co-factor: NADPH and NADH; (c) substrate specificity: active on α,β-unsaturated ketons; (d) optimum temperature: 55-60°C at pH 7.4; and (e) optimum pH: pH 4.5-8.5.

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